

REMARKS

Reconsideration and allowance in view of the foregoing amendments and the following remarks are respectfully requested. Claims 13 and 29-38 remain pending; all claims stand rejected.

REJECTION UNDER 35 U.S.C. § 112

The Examiner has rejected Claims 13 and 29-38 under 35 U.S.C. § 112, first paragraph, as containing new matter. The range 13 to 20 % was allegedly found to lack support in the application as filed. The only support found by the Examiner was for the interval 13.2 to 19.2 %, supported by page 17 of the Specification.

In order to overcome this rejection, Applicants have replaced the interval “13 to 20 %” by the interval “13.2 to 19.2 %”. This amendment finds support in Table 1 on page 17 of the Specification as filed and does not contain new matter. Accordingly, withdrawal of the rejections under 112(1) is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103(a)

According to paragraph 6 of the Office Action, claims 13, 29-38 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Nicholson (US 5,277,857) in view of O’Brien (US 3,645,760) and Hammer (US 5,143,584). Applicants respectfully traverse the rejections for the following reasons.

Nicholson is not prior art

According to the Office Action, Nicholson teaches a method for manufacturing a fibrous cellulose sausage casing, wherein viscose is extruded onto a tube of paper prior to entering the coagulation and regeneration bath. Further, the Office Action refers to col. 7, l. 20-45 of Nicholson, according to which the expansion of Nicholson’s casing is 52 % at a bursting strength of 27 kPa. The Nicholson patent was filed on January 17, 1992 and issued on January 11, 1994.

In the present application, as cited in independent claim 13, a method for manufacturing a fibrous cellulose sausage casing is described, wherein viscose is extruded onto a tube of paper prior to entering the coagulation and regeneration bath. According to claim 1 and Table 1, the elasticity of the claimed sausage casing is between 13.2 and 19.2 % at an inflation from 0 to 30 kPa. Further, the bursting strength of the claimed casing is between 52 and 79 kPa (burst coefficient of 8.5-11.1). See Table 2 of the present application

The present application is a CIP of application Serial No. 07/730,972, filed July 26, 1991 and based on PCT/FI90/00302. On page 3, line 20, to page 4, line 4, of the PCT application, a method for manufacturing a fibrous cellulose sausage casing is described wherein viscose is extruded onto a tube of paper prior to entering the coagulation and regeneration bath. Thus, with respect to the casing manufacture process, the effective date of the present application is July 26, 1991.

Further, the Table on page 6 of the PCT application gives the bursting strengths of the invention. They are between 55 and 132 for the claimed casings (Visko Light). The six bursting strength values given in the Table totally overlap with the values of the present application. Thus, with respect to the casing bursting strength, the effective date of the present application is July 26, 1991.

With respect to the subject matter (preparation process, bursting strength) cited by the PTO against the present claims, Nicholson has a later date, January 17, 1992, than the effective date, July 26, 1991, of the present application. Thus, the Nicholson document does not qualify as prior art as against the subject matter of the present application.

Hammer is not prior art

According to the Examiner, Hammer teaches a fiber paper impregnated with viscose, which fiber paper has a weight of from about 12 g/m² onwards. The Examiner concludes that it would have been obvious to use the claimed fiber paper weight (10 - 15 g/m²) in order to obtain an elastic casing. See page 4 of the Office Action. Hammer was filed on June 4, 1990 and issued on September 1, 1992.

The present application claims priority on the earlier Finnish application 896229, filed on December 22, 1989, a sworn translation of which is enclosed. On page 2, l. 4-7, of the translation, a fiber paper impregnated with viscose is disclosed. According to page 1, l. 25, as well as claim 1, of said translation, the fiber paper has a weight no more than 15 g/m². The presently claimed weight range is 10-15 g/m². According to case law regarding intervals, overlapping ranges mean anticipation, i.e. earlier disclosure. *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 51 USPQ 2d 1943 (Fed. Cir. 1999), *Chester v. Miller*, 906 F.2d 1574, 1578, 15 USPQ 2d at 1337 (Fed. Cir. 1990). Moreover, it is generally known in the art that the fiber structure of the paper no longer holds together at weights below about 10 g/m². (Declaration Under 37 C.F.R. §1.132 of Edmund King ("King Decln.") ¶ 20) Thus, the claimed range of 10-15 g/m² is supported by the earlier application so that with respect to the product description and the paper weight, the effective date of the present application is December 22, 1989.

With respect to the subject matter cited by the PTO, Hammer has a later date, namely June 4, 1990, than the effective date, namely December 22, 1989, of the present application. Thus, the Hammer document does not qualify as prior art as against the subject matter of the present application.

Withdrawal of the rejection as a whole

Because neither Nicholson nor Hammer constitute prior art, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection based on Nicholson, Hammer, and O'Brien be withdrawn, altogether.

Non-obviousness notwithstanding lacking qualification as prior art

Even if, *hypothetically*, Nicholson and Hammer constituted prior art as against this application, the cited combination of Nicholson, Hammer, and O'Brien does not render the present invention obvious for the following reasons.

The present invention relates to a method for manufacturing a high elasticity fibrous cellulose casing by (a) forming a polyamide epihalohydrin and/or viscose wet strengthened

manila based paper having a dry weight of from 10 to 15 g/m² into a tubing, (b) impregnating the outer surface of the tubing with viscose, (c) coagulating the viscose, and (d) plasticizing the tubing. By using the method, a strong and elastic sausage casing can be prepared.

"When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references." *In re Rouffet*, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998); see also MPEP § 2143.01. Virtually all inventions are combinations of old elements. *See In re Rouffet*, 47 USPQ2d at 1457. If identification of each claimed element in the prior art were sufficient to negate patentability, the Examiner could use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. *See Id.* To prevent the use of hindsight based on the teachings of the patent application, the Examiner must show a motivation to combine the references in the manner suggested. *See Id.* at 1457-1458.

It is acknowledged in the Office Action, that Nicholson "fails to teach the specific claimed aqueous method of forming the casing, and the air-dry weight of the wet strengthened paper." O'Brien is purported to support the conclusion that the specific method is claimed well known in the art, and it is suggested in the Office Action that it would have been obvious to incorporate the teachings of O'Brien into Nicholson "in order to obtain an alternate method of forming a wet-strengthened fibrous sausage casing." Obtaining an "alternate method" does not, however, constitute a valid motivation to combine the teachings of O'Brien and Nicholson. "The mere fact that the references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." MPEP § 2143.01, at 2100-124, August 2001 (emphasis in original). A valid motivation supporting the combination of O'Brien and Nicholson must at least explain why one of ordinary skill in the art would be motivated to seek an alternate method. One does not typically seek an alternative when there is no reason for doing so.

With respect to the teachings of Hammer, it suggested in the Office Action that it would have been obvious to use the teachings of Hammer in the invention of Nicholson in order to

obtain a method of obtaining a variation of a fiber reinforced sausage casing with the desired strength and elasticity (Office Action, page 5).

Applicants must respectfully disagree. Again, suggesting the one skilled in the art would have been motivated to incorporate the teachings of Hammer "in order to obtain a method of obtaining a variation of a fiber reinforced sausage casing" does not satisfy the Office's burden in establishing a *prima facia* case of obviousness because it does not explain why one would be motivated to seek such a variation. The fact that one can obtain a variation of a fiber reinforced sausage casing does not mean that it would have been obvious to do so. One would not typically seek a variation in an existing product or process without a reason to do so.

Furthermore, according to Nicholson, the preparation of sausage casings by impregnating with viscose (i.e., dissolved cellulose xanthate) liberates harmful hydrogen sulfide and gas bubbles. For that reason Nicholson teaches, that the viscose should be replaced by dissolved underivatized cellulose. See col. 2, l. 16 - 44, col. 3, l. 40-49, of Nicholson. According to O'Brien, in order to improve the shrinkability and sausage adhesion of fiber paper reinforced casing, the fiber paper should first be treated with protein, and then impregnated with viscose. See col. 2, l. 71-75, and col. 3, l. 45-49, of O'Brien. Similarly, according to Hammer in order to improve the mechanical properties of reinforcing fiber paper for sausage casings, the paper should be treated with alginic acid or its insoluble salt. See col. 2, l. 20-38, of Hammer. The treated fiber paper is then impregnated with viscose. See col. 4, l. 26-46, of Hammer.

Clearly, Nicholson, O'Brien, and Hammer have mutually different objectives, which furthermore differ from the objective of the presently claimed invention, namely to achieve elastic casings. Thus, one of ordinary skill in the art would not have been motivated to combine the teachings of Nicholson, O'Brien, and Hammer. Moreover, the teachings of the references are mutually contradictory, because Nicholson teaches against impregnating with viscose, whereas O'Brien and Hammer teach impregnation with viscose. Thus, the disclosures of O'Brien and Hammer actually teach away from their combination with Nicholson.

In summary, the Office Action does not suggest a valid motivation for combining the teachings of Nicholson, O'Brien, and Hammer, and moreover, the respective disclosures of these

references are such that there would have been no suggestion or incentive, absent the teachings of the present application, for one of ordinary skill in the art to combine the teachings of these references.

The cited references also point in a different direction than the presently claimed invention. Such a pointer away represents "strong evidence of unobviousness." *In re Hedges*, 783 F.2d 1038, 1041, 228 USPQ 685, 687 (Fed. Cir. 1986); *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1552, 220 USPQ 303, 312 (Fed. Cir. 1983). As explained above, O'Brien treats the paper with a protein, prior to impregnating with viscose, and not with the claimed viscose or polyamide epihalohydrin. As also explained above, Hammer treats the paper with alginic acid, prior to impregnating with viscose, and not with the claimed viscose or polyamide epihalohydrin. Nicholson impregnates the paper with dissolved cellulose, and not with the claimed viscose. The teachings of the prior art must be considered in their entireties. It is improper to pick and chose only those aspects of the prior art which purportedly support the rejection. The combination of Nicholson, O'Brien, and Hammer would *prima facie* result in a treatment of the paper with protein and/or alginic acid followed by an impregnation thereof with dissolved cellulose. However, such a process not only falls short of yielding the claimed method, but also points away therefrom.

Finally, in order to establish a *prima facie* case, the prior art combination of references must teach or suggest all the limitations of the claims. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). Neither Nicholson, O'Brien, nor Hammer discloses or suggests the claimed feature that the casing has an elasticity, i.e. a reversible deformation, of 13.2 – 19.2 % at 30 kPa. The passage of Nicholson referred to on page 3 of the Office Action only gives the expansion (52 %) and pressure (27 kPa) values at which the casing bursts (for comparison, the claimed casings do not burst until 52-79 kPa; see Table 2 of the present application). Hammer's casings have an elasticity of about 9.3-12.5%. (King Decln. ¶¶ 12-13). Also, neither Nicholson nor O'Brien discloses or suggests that the weight of the wet-strengthened paper must be as low as the claimed 10-15 g/m². And the described weight range of Hammer is very broad and generic,

namely 12-30 g/m², preferably 15-28 g/m², making no distinction between heavier and lighter weight paper. See col. 4. 1. 20-24, of Hammer.

According to page 4 of the Office Action, Hammer teaches a fiber paper impregnated with viscose, which fiber paper has a weight of from about 12 g/m² onwards. The Examiner concludes that “[i]t would have been mere routine optimization to have used lighter weight paper in order to obtain a variation of the elasticity (strength) of the sausage casing”. Applicants must respectfully disagree. The elastic casing of the invention was neither suggested nor expected to succeed on the basis of the cited references, including Hammer. With no suggestion in the prior art that a selected range of paper weight could advantageously affect the paper elasticity, the “routine optimization” becomes, in essence, an obvious to experiment standard for obviousness with regard to obtaining the elastic casing. Obvious to experiment is not, however, a proper standard for obviousness. *In re Dow Chemical Co.*, 837 F.2d 469, 471, 5 USPQ 2d 1529, 1532 (Fed. Cir. 1988). There must be some reason or suggestion in the art for optimizing the weight of the paper. *Cf. Id.*

Comments on the “Response to Arguments”

As was explained in the Amendment filed on September 21, 2001, the strength (burst strength) of casings formed in accordance with the present invention is superior to the strength of casings formed according to the process described in O’Brien and is at least as good as the strength of casings formed according to the process described in Hammer. This is now demonstrated in the accompanying Declaration of Edmund King. *See* King Decln. at ¶¶ 5-9. Moreover, in response to the statement in the Office Action that “Applicants have not stated in the present claims that the casings have the required strength of the casings of Hammer et al.” independent claim 13 has been amended to recite that a casing made in accordance with the present invention has a burst coefficient in the range of 8.5 to 11.1. Support for this amendment can be found in the right-hand column of Table 2.

The Examiner has also requested that applicants demonstrate the criticality of the claimed range of elasticity of 13.2-19.2% relative to the prior art. Hammer describes various examples

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from which an elasticity may be calculated. (King Decln. ¶¶ 12-17) Depending on how the elasticity of Hammer's example is calculated, however, the elasticity of casings formed in accordance with the present invention are 35-50 % better than that of a casing formed in accordance with Hammer's method. (King Decln. ¶ 18).

The superior elasticity translates into a superior casing. (King Decln. ¶ 19). Sausages can be stuffed into casings formed in accordance with the present invention to a higher internal pressure, relative to their strength per unit weight, than with prior art casings while the casings maintain their elasticity, thereby presenting a smooth, wrinkle-free external surface that is important to consumer acceptance. (King Decln. ¶ 19).

Thus, Applicants respectfully submit that the superior elasticity achieved with casings formed in accordance with the method of the present invention is a critical distinction that patentably distinguishes the method of the present invention over the teachings of the cited prior art reference.

Summary and Conclusion

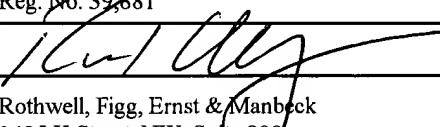
The rejections based on the combination of Nicholson, O'Brien, and Hammer should be withdrawn.

1. Neither Nicholson nor Hammer constitutes prior art against the presently pending claims. The present application claims priority from documents which predate Nicholson and Hammer and which provide support for the subject matter which is purported taught by Nicholson and Hammer.
2. Even if Nicholson and Hammer constituted prior art, the rejection based on the combination of Nicholson, O'Brien, and Hammer is no more than a hindsight reconstruction of the claimed invention. The Office Action presents no valid motivation for combining the references in the manner suggested. Moreover, the disclosures of the cited references actually teaches away from their combination.
3. Even if Nicholson and Hammer constituted prior art and even if one of ordinary skill would have been motivated to combine the teachings of Nicholson, O'Brien, and Hammer in the

manner suggested, these references, taken alone or in combination, do not teach all of the elements of the rejected claims, much less the claimed combinations of elements recited in each of the rejected claims.

Thus, for any of the foregoing reasons, it is respectfully requested that the rejection of claims 13 and 29-38 under 35 U.S.C. § 103 in view of Nicholson, O'Brien, and Hammer be withdrawn.

All objections and rejections having been addressed, it is respectfully submitted that the present application is now in condition for allowance and a Notice to that effect is earnestly requested.

RESPECTFULLY SUBMITTED,					
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Attachments: Marked-Up Copies of Amendments, Declaration of Edmund King, and FI Verified Translation Nos. 905568, 903758, and 896229

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